



SEQUENCE LISTING

<110> EDWARDS, ROBERT
 BELLOCCHIO, ELIZABETH
 FREMEAU, ROBERT
 REIMER, RICHARD

<120> NOVEL GLUTAMATE TRANSPORTERS

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<140> US 09/915,181

<141> 2001-07-24

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<151> 2000-07-25

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<170> PatentIn version 3.0

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Phe Gly Leu Pro Arg Arg Tyr Ile Ile Ala Ile Met Ser Gly Leu Gly
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Met	Gly	Phe	Met	Ile	Ser	Phe	Gly	Ile	Arg	Cys	Asn	Phe	Gly	Ala	Ala
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Lys	Thr	His	Met	Tyr	Lys	Asn	Tyr	Thr	Asp	Pro	Tyr	Gly	Lys	Val	His
				85					90					95	
Met	His	Glu	Phe	Asn	Trp	Thr	Ile	Asp	Glu	Leu	Ser	Val	Met	Glu	Ser
			100					105					110		
Ser	Tyr	Phe	Tyr	Gly	Tyr	Leu	Val	Thr	Gln	Ile	Pro	Ala	Gly	Phe	Leu
		115					120					125			
Ala	Ala	Lys	Phe	Pro	Pro	Asn	Lys	Leu	Phe	Gly	Phe	Gly	Ile	Gly	Val
	130					135					140				
Gly	Ala	Phe	Leu	Asn	Ile	Leu	Leu	Pro	Tyr	Gly	Phe	Lys	Val	Lys	Ser
145					150					155					160
Asp	Tyr	Leu	Val	Ala	Phe	Ile	Gln	Ile	Thr	Gln	Gly	Leu	Val	Gln	Gly
				165					170					175	
Val	Cys	Tyr	Pro	Ala	Met	His	Gly	Val	Trp	Arg	Tyr	Trp	Ala	Pro	Pro
			180					185					190		
Met	Glu	Arg	Ser	Lys	Leu	Ala	Thr	Thr	Ala	Phe	Thr	Gly	Ser	Tyr	Ala
		195					200					205			
Gly	Ala	Val	Leu	Gly	Leu	Pro	Leu	Ser	Ala	Phe	Leu	Val	Ser	Tyr	Val
	210					215					220				
Ser	Trp	Ala	Ala	Pro	Phe	Tyr	Leu	Tyr	Gly	Val	Cys	Gly	Val	Ile	Trp
225					230					235					240
Ala	Ile	Leu	Trp	Phe	Cys	Val	Thr	Phe	Glu	Lys	Pro	Ala	Phe	His	Pro
				245					250					255	
Thr	Ile	Ser	Gln	Glu	Glu	Lys	Ile	Phe	Ile	Glu	Asp	Ala	Ile	Gly	His
			260					265					270		
Val	Ser	Asn	Thr	His	Pro	Thr	Ile	Arg	Ser	Ile	Pro	Trp	Lys	Ala	Ile
		275					280					285			

Val Thr Ser Lys Pro Val Trp Ala Ile Ile Val Ala Asn Phe Ala Arg
 290 295 300
 Ser Trp Thr Phe Tyr Leu Leu Leu Gln Asn Gln Leu Thr Tyr Met Lys
 305 310 315 320
 Glu Ala Leu Gly Met Lys Ile Ala Asp Ser Gly Leu Leu Ala Ala Ile
 325 330 335
 Pro His Leu Val Met Gly Cys Val Val Leu Met Gly Gly Gln Leu Ala
 340 345 350
 Asp Tyr Leu Arg Ser Asn Lys Ile Leu Ser Thr Thr Ala Val Arg Lys
 355 360 365
 Ile Phe Asn Cys Gly Gly Phe Gly Gly Glu Ala Ala Phe Met Leu Ile
 370 375 380
 Val Ala Tyr Thr Thr Ser Asp Thr Thr Ala Ile Met Ala Leu Ile Ala
 385 390 395 400
 Ala Val Gly Met Ser Gly Phe Ala Ile Ser Gly Phe Asn Val Asn His
 405 410 415
 Leu Asp Ile Ala Pro Arg Tyr Ala Ala Ile Leu Met Gly Phe Ser Asn
 420 425 430
 Gly Ile Gly Thr Leu Ala Gly Leu Thr Cys Pro Phe Val Thr Glu Ala
 435 440 445
 Phe Thr Ala His Ser Lys His Gly Trp Thr Ser Val Phe Leu Leu Ala
 450 455 460
 Ser Leu Ile His Phe Thr Gly Val Thr Phe Tyr Ala Val Tyr Ala Ser
 465 470 475 480
 Gly Glu Leu Gln Glu Trp Ala Glu Pro Lys Glu Glu Glu Glu Trp Ser
 485 490 495
 Asn Lys Glu Leu Val Asn Lys Thr Gly Ile Asn Gly Thr Gly Tyr Gly
 500 505 510
 Ala Ala Glu Thr Thr Phe Thr Gln Leu Pro Ala Gly Val Asp Ser Ser
 515 520 525
 Tyr Gln Ala Gln Ala Ala Pro Ala Pro Gly Thr Asn Pro Phe Ala Ser
 530 535 540

Ala Trp Asp Glu His Gly Ser Ser Gly Val Val Glu Asn Pro His Tyr
 545 550 555 560

Gln Gln Trp

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 <211> 495
 <212> PRT
 <213> Homo sapiens

<400> 7

Met Arg Ser Pro Val Arg Asp Leu Ala Arg Asn Asp Gly Glu Glu Ser
 1 5 10 15

Thr Asp Arg Thr Pro Leu Leu Pro Gly Ala Pro Arg Ala Glu Ala Ala
 20 25 30

Pro Val Cys Cys Ser Ala Arg Tyr Asn Leu Ala Ile Leu Ala Phe Phe
 35 40 45

Gly Phe Phe Ile Val Tyr Ala Leu Arg Val Asn Leu Ser Val Ala Leu
 50 55 60

Val Asp Met Val Asp Ser Asn Thr Thr Leu Glu Asp Asn Arg Thr Ser
 65 70 75 80

Lys Ala Cys Pro Glu His Ser Ala Pro Ile Lys Val His His Asn Gln
 85 90 95

Thr Gly Lys Lys Tyr Gln Trp Asp Ala Glu Thr Gln Gly Trp Ile Leu
 100 105 110

Gly Ser Phe Phe Tyr Gly Tyr Ile Ile Thr Gln Ile Pro Gly Gly Tyr
 115 120 125

Val Ala Ser Lys Ile Gly Gly Lys Met Leu Leu Gly Phe Gly Ile Leu
 130 135 140

Gly Thr Ala Val Leu Thr Leu Phe Thr Pro Ile Ala Ala Asp Leu Gly
 145 150 155 160

Val Gly Pro Leu Ile Val Leu Arg Ala Leu Glu Gly Leu Gly Glu Gly
 165 170 175

Val Thr Phe Pro Ala Met His Ala Met Trp Ser Ser Trp Ala Pro Pro

180					185					190					
Leu	Glu	Arg	Ser	Lys	Leu	Leu	Ser	Ile	Ser	Tyr	Ala	Gly	Ala	Gln	Leu
		195					200					205			
Gly	Thr	Val	Ile	Ser	Leu	Pro	Leu	Ser	Gly	Ile	Ile	Cys	Tyr	Tyr	Met
	210					215					220				
Asn	Trp	Thr	Tyr	Val	Phe	Tyr	Phe	Phe	Gly	Thr	Ile	Gly	Ile	Phe	Trp
225					230					235					240
Phe	Leu	Leu	Trp	Ile	Trp	Leu	Val	Ser	Asp	Thr	Pro	Gln	Lys	His	Lys
				245					250					255	
Arg	Ile	Ser	His	Tyr	Glu	Lys	Glu	Tyr	Ile	Leu	Ser	Ser	Leu	Arg	Asn
			260					265					270		
Gln	Leu	Ser	Ser	Gln	Lys	Ser	Val	Pro	Trp	Val	Pro	Ile	Leu	Lys	Ser
		275					280					285			
Leu	Pro	Leu	Trp	Ala	Ile	Val	Val	Ala	His	Phe	Ser	Tyr	Asn	Trp	Thr
	290					295					300				
Phe	Tyr	Thr	Leu	Leu	Thr	Leu	Leu	Pro	Thr	Tyr	Met	Lys	Glu	Ile	Leu
305					310					315					320
Arg	Phe	Asn	Val	Gln	Glu	Asn	Gly	Phe	Leu	Ser	Ser	Leu	Pro	Tyr	Leu
				325					330					335	
Gly	Ser	Trp	Leu	Cys	Met	Ile	Leu	Ser	Gly	Gln	Ala	Ala	Asp	Asn	Leu
			340					345					350		
Arg	Ala	Lys	Trp	Asn	Phe	Ser	Thr	Leu	Cys	Val	Arg	Arg	Ile	Phe	Ser
		355					360					365			
Leu	Ile	Gly	Met	Ile	Gly	Pro	Ala	Val	Phe	Leu	Val	Ala	Ala	Gly	Phe
	370					375					380				
Ile	Gly	Cys	Asp	Tyr	Ser	Leu	Ala	Val	Ala	Phe	Leu	Thr	Ile	Ser	Thr
385					390					395					400
Thr	Leu	Gly	Gly	Phe	Cys	Ser	Ser	Gly	Phe	Ser	Ile	Asn	His	Leu	Asp
				405					410					415	
Ile	Ala	Pro	Ser	Tyr	Ala	Gly	Ile	Leu	Leu	Gly	Ile	Thr	Asn	Thr	Phe
		420						425					430		
Ala	Thr	Ile	Pro	Gly	Met	Val	Gly	Pro	Val	Ile	Ala	Lys	Ser	Leu	Thr

435 440 445
 Pro Asp Asn Thr Val Gly Glu Trp Gln Thr Val Phe Tyr Ile Ala Ala
 450 455 460
 Ala Ile Asn Val Phe Gly Ala Ile Phe Phe Thr Leu Phe Ala Lys Gly
 465 470 475 480
 Glu Val Gln Asn Trp Ala Leu Asn Asp His His Gly His Arg His
 485 490 495

 <210> 8
 <211> 465
 <212> PRT
 <213> Rattus norvegicus

 <400> 8
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 1 5 10 15
 Arg Tyr Gly Leu Ala Ile Leu Leu His Phe Cys Asn Ile Val Ile Met
 20 25 30
 Ala Gln Arg Val Cys Leu Asn Leu Thr Met Val Ala Met Val Asn Lys
 35 40 45
 Thr Glu Pro Pro His Leu Ser Asn Lys Ser Val Ala Glu Met Leu Asp
 50 55 60
 Asn Val Lys Asn Pro Val His Ser Trp Ser Leu Asp Ile Gln Gly Leu
 65 70 75 80
 Val Leu Ser Ser Val Phe Leu Gly Met Val Val Ile Gln Val Pro Val
 85 90 95
 Gly Tyr Leu Ser Gly Ala Tyr Pro Met Glu Lys Ile Ile Gly Ser Ser
 100 105 110
 Leu Phe Leu Ser Ser Val Leu Ser Leu Leu Ile Pro Pro Ala Ala Gln
 115 120 125
 Val Gly Ala Ala Leu Val Ile Val Cys Arg Val Leu Gln Gly Ile Ala
 130 135 140
 Gln Gly Ala Val Ser Thr Gly Gln His Gly Ile Trp Val Lys Trp Ala
 145 150 155 160

Pro	Pro	Leu	Glu	Arg	Gly	Arg	Leu	Thr	Ser	Met	Thr	Leu	Ser	Gly	Phe	165	170	175
Val	Met	Gly	Pro	Phe	Ile	Ala	Leu	Leu	Val	Ser	Gly	Phe	Ile	Cys	Asp	180	185	190
Leu	Leu	Gly	Trp	Pro	Met	Val	Phe	Tyr	Ile	Phe	Gly	Ile	Val	Gly	Cys	195	200	205
Val	Leu	Ser	Leu	Phe	Trp	Phe	Ile	Leu	Leu	Phe	Asp	Asp	Pro	Asn	Asn	210	215	220
His	Pro	Tyr	Met	Ser	Ser	Ser	Glu	Lys	Asp	Tyr	Ile	Thr	Ser	Ser	Leu	225	230	235
Met	Gln	Gln	Val	His	Ser	Gly	Arg	Gln	Ser	Leu	Pro	Ile	Lys	Ala	Met	245	250	255
Leu	Lys	Ser	Leu	Pro	Leu	Trp	Ala	Ile	Ile	Leu	Asn	Ser	Phe	Ala	Phe	260	265	270
Ile	Trp	Ser	Asn	Asn	Leu	Leu	Val	Thr	Tyr	Thr	Pro	Thr	Phe	Ile	Ser	275	280	285
Thr	Thr	Leu	His	Val	Asn	Val	Arg	Glu	Asn	Gly	Leu	Leu	Ser	Ser	Leu	290	295	300
Pro	Tyr	Leu	Leu	Ala	Tyr	Ile	Cys	Gly	Ile	Val	Ala	Gly	Gln	Met	Ser	305	310	315
Asp	Phe	Leu	Leu	Ser	Arg	Lys	Ile	Phe	Ser	Val	Val	Ala	Val	Arg	Lys	325	330	335
Leu	Phe	Thr	Thr	Leu	Gly	Ile	Phe	Cys	Pro	Val	Ile	Phe	Val	Val	Cys	340	345	350
Leu	Leu	Tyr	Leu	Ser	Tyr	Asn	Phe	Tyr	Ser	Thr	Val	Ile	Phe	Leu	Thr	355	360	365
Leu	Ala	Asn	Ser	Thr	Leu	Ser	Phe	Ser	Phe	Cys	Gly	Gln	Leu	Ile	Asn	370	375	380
Ala	Leu	Asp	Ile	Ala	Pro	Arg	Tyr	Tyr	Gly	Phe	Leu	Lys	Ala	Val	Thr	385	390	395
Ala	Leu	Ile	Gly	Ile	Phe	Gly	Gly	Leu	Ile	Ser	Ser	Thr	Leu	Ala	Gly	405	410	415

Leu Ile Leu Asn Gln Asp Pro Glu Tyr Ala Trp His Lys Asn Phe Phe
 420 425 430

Leu Met Ala Gly Ile Asn Val Thr Cys Leu Ala Phe Tyr Leu Leu Phe
 435 440 445

Ala Lys Gly Asp Ile Gln Asp Trp Ala Lys Glu Thr Lys Thr Thr Arg
 450 455 460

Leu
 465

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 <211> 14
 <212> RNA
 <213> Artificial

<220>
 <223> hairpin ribozyme

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 <222> (4)..(4)
 <223> b is g, c, or u

<220>
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 <222> (9)..(14)
 <223> b is g, c, or u

<220>
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 <222> (1)..(3)
 <223> n is a, g, c, or u

<220>
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 <222> (5)..(5)
 <223> n is a, g, c, or u

<400> 9
 nnnbngucnn nnnn
 14

<210> 10
<211> 32
<212> DNA
<213> Artificial

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<400> 10
gggaattcat tcatgaagat gaactggatg aa
32

<210> 11
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<212> DNA
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<220>
<223> PCR primer

<400> 11
ggctcgagct agcttcgtta tgaataatca tc
32